



**City of Houston  
Insulation & Air Leakage Fact Sheet**

**INSULATION**

**MAXIMUM R-VALUES FOR BATT INSULATION  
THAT CAN BE INSTALLED DEPENDING ON STUD SIZE**

	2 x 4	2 x 6	2 x 8	2 x 10	2 x 12
Walls	R-11, R-13, R-15	R-21	R-22	R-30	R-30
Rafters (with a 1" air gap)	NA	R-15	R-19	R-22/R-30C	R-30

The table above gives the maximum R-value of standard insulation that will fit in the cavity of a wall or ceiling. These numbers use the worst case since insulation thickness varies depending on manufacturer.

- Insulation markings shall be shown inside the structure
- Attic and subfloor certificates shall be located at the attic access opening for insulation inspection.

**AIR LEAKAGE**

All joints and penetrations in the building envelope that are potential sources of air leakage must be caulked, gasketed, weather-stripped, or otherwise sealed in an approved manner.

***The following areas in the building envelope must be sealed:***

***Framing Inspection—***

- exterior joints around window and door frames
- areas between wall sole plates and floors
- penetrations for plumbing, electricity, refrigerant, and gas lines in exterior walls, floors, and roofs
- openings in the attic floor (e.g., where ceiling panels meet interior and exterior walls and masonry fireplaces)
- service and access doors or hatches
- crawlspace panels
- corners and t's
- all other similar openings in the building envelope

***Final inspection—***

- between the register box and ceiling, subfloor or sheetrock
- at recessed lights

***Air sealant materials include:***

- durable calking material
- foam backer rod
- gaskets – not chinks of batt insulation
- expanding foam products
- air wrap - permeable and taped
- tar paper – no tape
- rigid boards installed properly at framing members